How is Inquiry Teaching Different from Traditional Instruction?

How chemistry is usually taught

Traditional instruction generally:

- has the student as a passive participant
- has the concept explained by teacher lecture
- uses teacher's explanation for student comprehension of the concept
- uses student experimentation and data analysis simply as concept verification

How inquiry chemistry is taught

Inquiry instruction:

- has the student as an active participant
- has concept development principally based on experimentation and data analysis by the student
- uses critical thinking skills of the student for comprehension of the concept
- uses the teacher as a guide to give the student's thought process proper direction

Traditional Instruction Concept to Data		Inquiry Instruction Data to Concept	
Engage	**Demo**	**Engage**	**Demo**
Explain	**Explain Concept**	**Explore**	**Experimentation and Data Acquisition**
Explore	**Present Justifying Data**	**Explain**	**Students Use Data to Derive Concept**
Elaborate	**Strengthen understanding through practice**	**Elaborate**	**More detail and Link to Other Concepts**
Evaluate	**Exam, Lab Report**	***Evaluate***	**Exam, Lab Report**

The Historical Perspective: Traditional versus Inquiry

In traditional instruction the sequencing of chemical concepts varies and is based on the personal preferences of the author. The sequencing generally shows no correlation to the historical development of chemistry as a science.

Inquiry instruction tells a story. The sequencing of concepts is made to follow the historical timeline of the development of chemistry as a science.